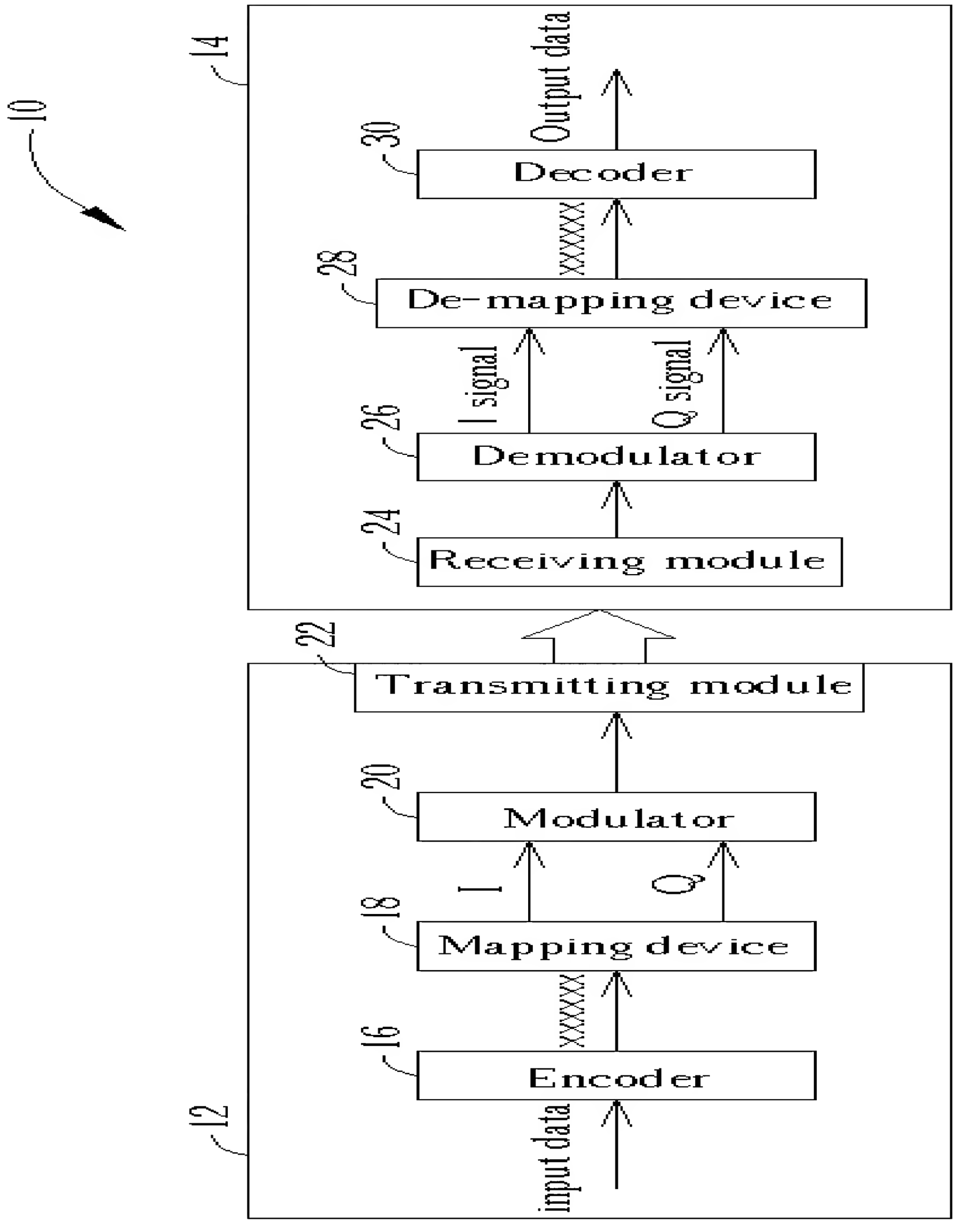

Fig. 1 Prior art

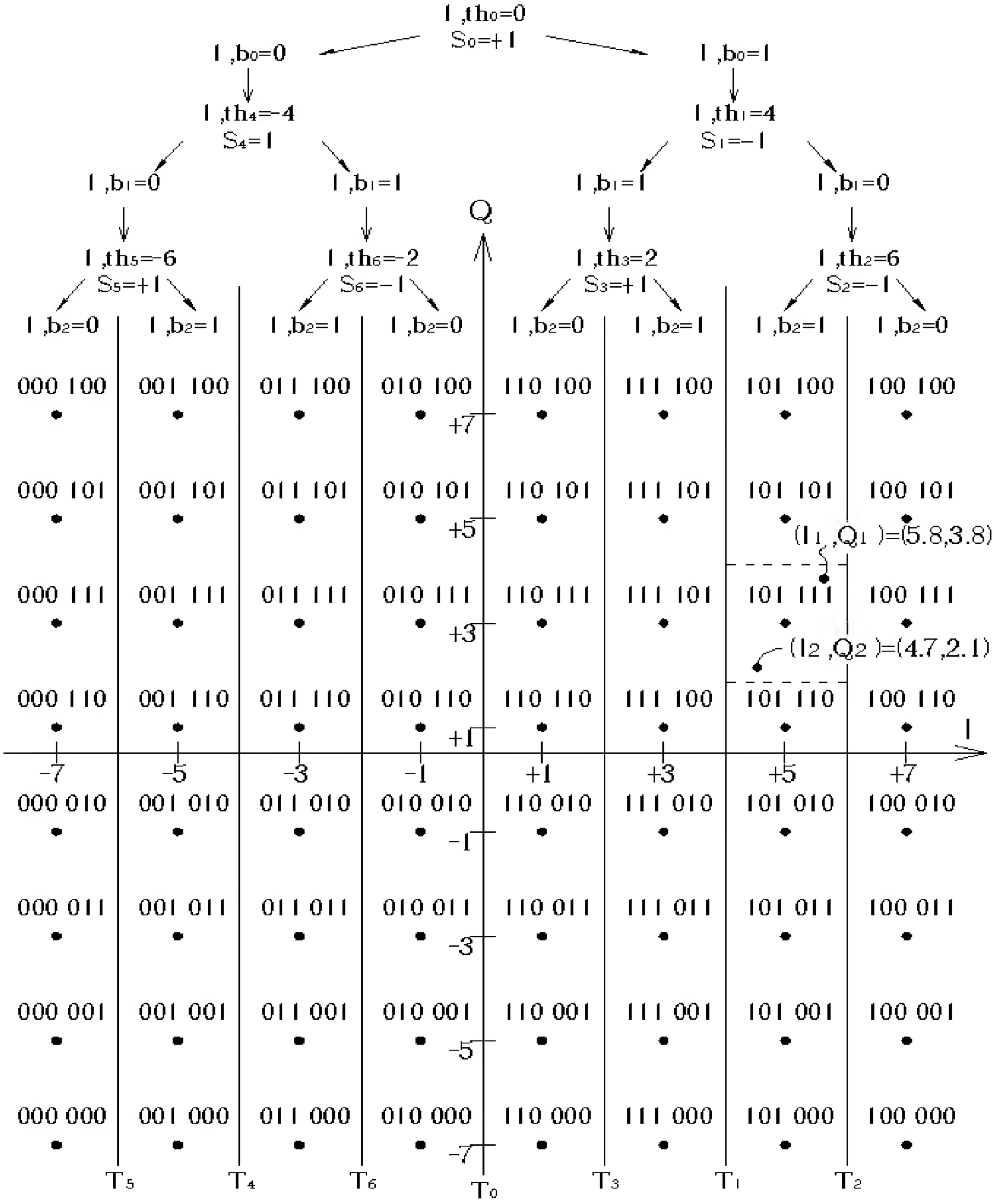

Fig. 2 Prior art

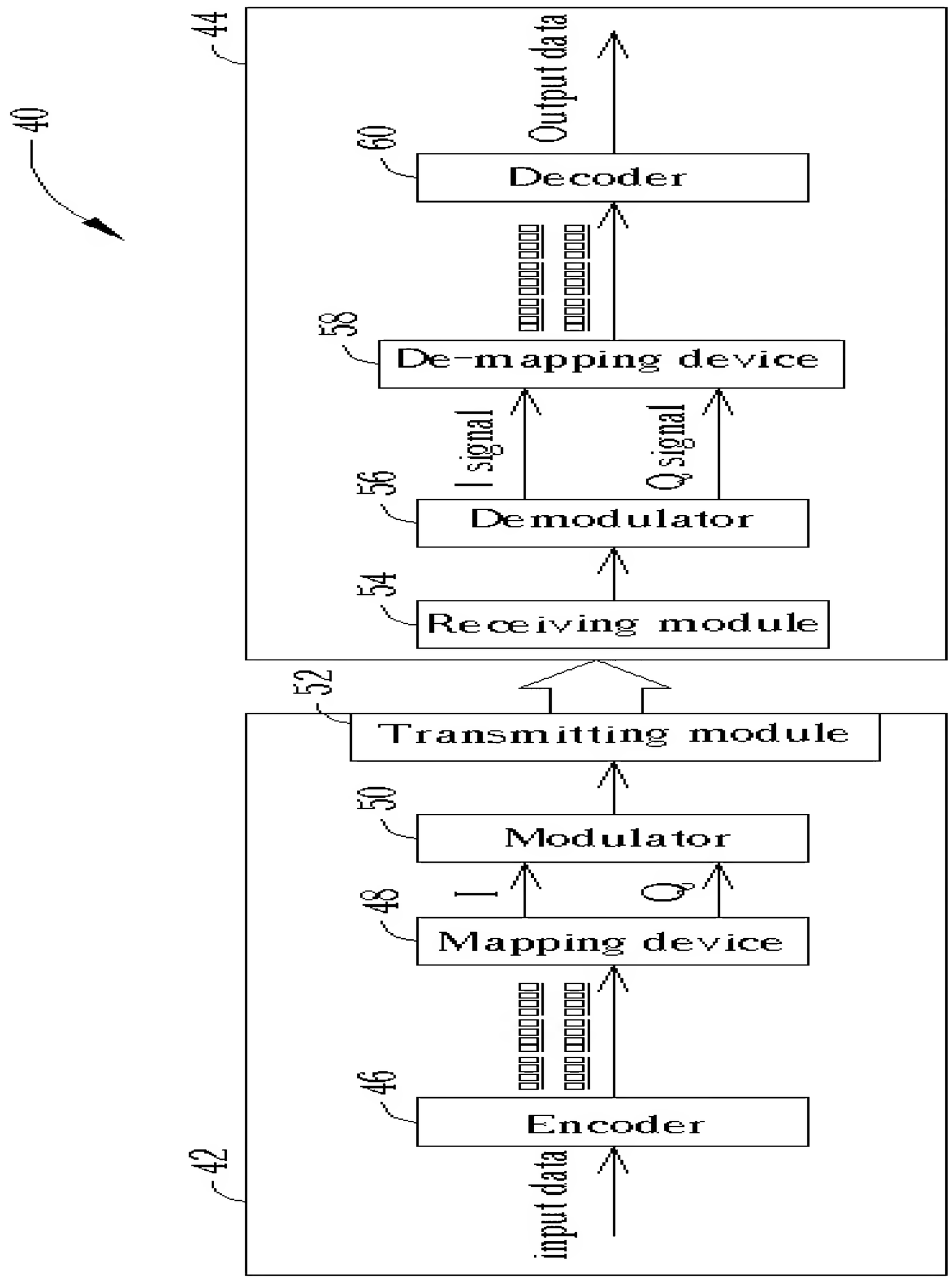
40
44
Output data
60
Decoder
58
De-mapping device
I signal
Q signal
56
Demodulator
54
Receiving module
52
Transmitting module
50
Modulator
I
Q
48
Mapping device
46
Encoder
42
input data

Fig. 3

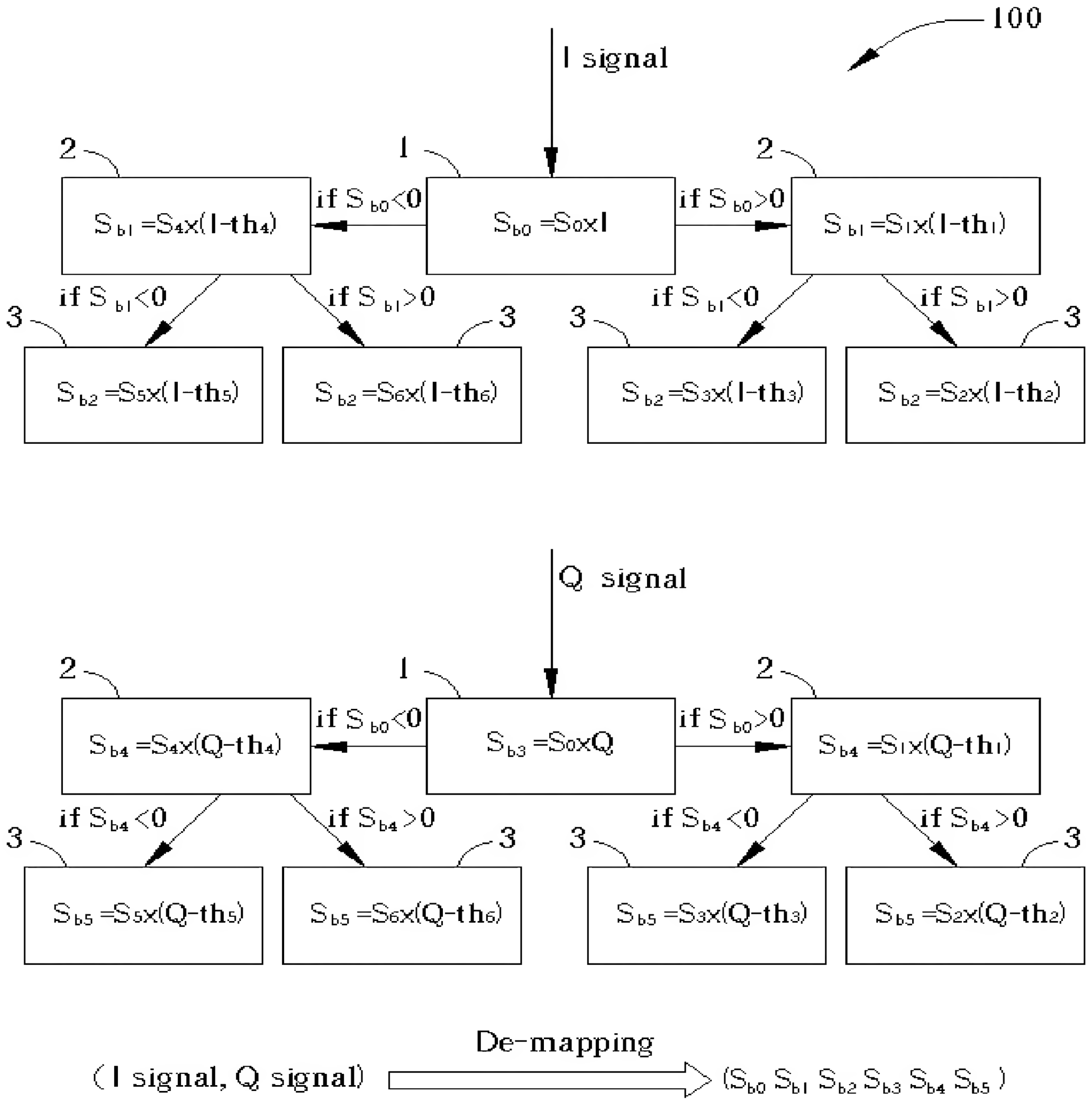
100
I signal
1
2
2
if S_{b0}<0
if S_{b0}>0
S_{b1} =S_4x(I-th$_4$)
S_{b0} =S_0xI
S_{b1} =S_1x(I-th$_1$)
if S_{b1}<0
if S_{b1}>0
if S_{b1}<0
if S_{b1}>0
3
3
3
3
S_{b2} =S_5x(I-th$_5$)
S_{b2} =S_6x(I-th$_6$)
S_{b2} =S_3x(I-th$_3$)
S_{b2} =S_2x(I-th$_2$)
Q signal
1
2
2
if S_{b0}<0
if S_{b0}>0
S_{b4} =S_4x(Q-th$_4$)
S_{b3} =S_0xQ
S_{b4} =S_1x(Q-th$_1$)
if S_{b4}<0
if S_{b4}>0
if S_{b4}<0
if S_{b4}>0
3
3
3
3
S_{b5} =S_5x(Q-th$_5$)
S_{b5} =S_6x(Q-th$_6$)
S_{b5} =S_3x(Q-th$_3$)
S_{b5} =S_2x(Q-th$_2$)
De-mapping
(I signal, Q signal)
(S_{b0} S_{b1} S_{b2} S_{b3} S_{b4} S_{b5})

Fig. 4